NATURAL RESOURCE PLAN - EXECUTIVE SUMMARY

NATURAL RESOURCE PLAN

# Executive Summary

The Natural Resource Plan	3
History of Environmental Stewardship Spending	4
Road Map for Success	5
Measures of Success	7
Benefits	7
Risks	8
Funding	8
Resource Area Summaries	9
Biological Resources Summary	9
Cultural Resources Summary	11
Recreation Management Summary	13
Water Resources Management Summary	15
Reservoir Lands Planning Summary	17
Public Engagement Summary	19







In the 1930s, President Franklin D.
Roosevelt needed innovative solutions
to lift the nation out of the depths of the
Great Depression. TVA is considered one
of his most innovative actions. Roosevelt
envisioned TVA as an agency different



from any other. He asked Congress to create "a corporation clothed with the power of government but possessed of the flexibility and initiative of a private enterprise." On May 18, 1933, Congress passed the Tennessee Valley Authority Act.

TVA was created to foster the economic and social well-being of the people of the Tennessee Valley, including the wise use and conservation of the region's natural resources. Below is an excerpt from a letter written by Arthur E. Morgan, the first chairman of the TVA board, to the agency on March 2, 1956, highlighting the importance of TVA's involvement in preserving and protecting the Valley's lands:

"As the population of our country increases and as leisure time increases, the need for recreation space, and for bits of unspoiled nature to which people can go for refreshment of spirit, will continue to increase. Past generations have been so close to pioneering days that there has been lacking a sense of urgency in the preservation of fine bits of nature. It may be a generation or two more before the full importance of that need is recognized. I have felt that in the meantime the best we can do is to hold the fort, to keep our fine, unspoiled recreation areas in that condition until such an appreciation of them grows which will insure the necessary protection. For your help in this process of standing guard I am deeply grateful."



## The Natural Resource Plan

The NRP is an integral step in achieving the mission set forth in the TVA Act as well as fulfilling the responsibilities associated with being a good steward of the lands and resources that TVA manages. It is a living, dynamic document that will be reviewed, revisited and updated at regular intervals, not to exceed five years. The NRP looks strategically at both renewable and nonrenewable resources, underscoring the importance of protecting those resources that will be lost forever if they are not actively protected or improved today. TVA is one piece of the solution and recognizes the need for a coordinated and collaborative

effort to meet the near- and long-term resource needs. As such, the NRP is designed to:

- Integrate the objectives of six resource areas (biological, cultural, recreation, water, public engagement and reservoir lands planning)
- Provide optimum public use benefit
- Balance competing and sometimes conflicting resource uses

These competing interests, coupled with today's environmental awareness and focus on preserving nonrenewable resources, underscore the necessity for a consistent approach to the management of federal lands and waters in the care of TVA.

## History of Environmental Stewardship Spending

TVA's responsibility for stewardship of the waters and public lands of the Tennessee Valley was established in the TVA Act of 1933. From its inception and through most of the 1950s, TVA received federal appropriations to fund its operations. In 1959, Congress passed legislation that made the TVA power system self-financing. However, TVA continued to receive appropriations for its stewardship programs to supplement funding from power revenues and nonpower revenue sources such as agricultural leases, timber sales, and recreation management and user fees.

The Energy and Water Development Act of 1998 ended federal appropriations and required TVA to fund nonpower programs that constitute "essential stewardship activities"

with power revenues and other funds. The term "essential stewardship activities" was interpreted to include, and be limited to, those types of stewardship activities for which TVA was receiving appropriations at the time the legislation was enacted. Such activities include dam safety and maintenance, navigation, flood control, and NRP-related programs. At the time the law was passed, TVA was spending approximately \$79 million on these activities.

Since 1999, TVA has continued to support these stewardship activities at comparable levels, funding activities almost entirely from the sale of electricity (see Figure 0.1). In 2010, TVA spent approximately \$65 million on essential stewardship programs and associated capital improvement projects. Approximately \$7 million to \$8 million of this amount funded programs that are evaluated in the NRP.

#### **Essential Stewardship Activities**

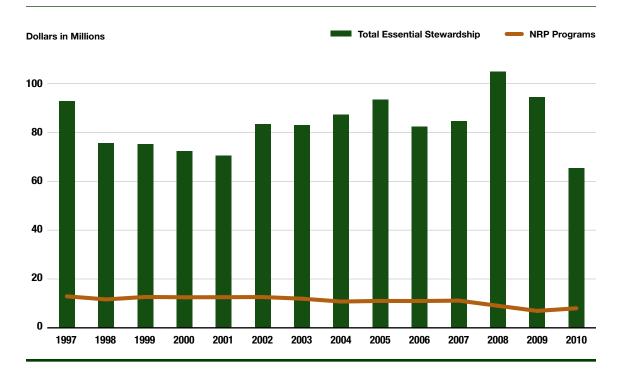


Figure 0.1 Historical TVA essential stewardship activities spending



## **Road Map for Success**

The NRP represents TVA's high-level strategy for managing its natural resources in the near and long term. Detailed implementation plans will be developed based on the NRP to drive specific implementation efforts. To guide its NRP-related stewardship efforts and provide a means for measuring results, TVA has developed a "road map" as a guide over the next three, five, and 20 years:

#### PHASE I

#### Establish a Foundation for Success While Maintaining Baseline Activities

#### **Keys to Success**

- Maintain current efforts to meet regulatory and legal requirements
- Expand data management and information sharing opportunities
- Gain a better understanding of the resource base and current conditions
- Develop and maintain partnerships to support implementation efforts
- Strengthen integration between resource areas during implementation
- Establish an NRP assessment process and metrics to measure results
- Begin adapting reservoir land plans to singleuse parcel allocation methodology

## PHASE II ▶

#### Implement Programs to Sustain, Maintain and Improve Resource Conditions

#### **Keys to Success**

- Evaluate NRP implementation efforts and refresh the plan based on progress
- Continue to address resource needs through a systematic implementation approach
- Establish or partner with a foundation and trust fund to support expansion of NRP programs
- Continue to strengthen collaborative working environments
- Finish updating remaining reservoir land plans to single-use parcel allocation

### PHASE III

## Continue to Enhance and Improve TVA's Stewardship Efforts

#### **Keys to Success**

FIVE

~

m

 $\triangleright$ 

D

Z

IJ

U

IJ

Ш

П

IJ

Ш

ഗ

I

0

<

0

Ш

- Refresh NRP on a fiveyear cycle
- Focus enhancement or expansion efforts through building partnerships, corporate sponsorships, or other collaborative means
- Update reservoir land management plans on a rotational or as-needed basis

Figure 0.2 Overview of the NRP implementation strategy



Phase I: Years 1 to 3

Initially, TVA will focus its efforts on establishing a foundation for stewardship success while maintaining a baseline level of effort that ensures legal and regulatory compliance. TVA will implement a "boots on the ground" data collection and lands assessment strategy to gain a better understanding of the condition of resources under its care. This will inform future planning activities and support TVA's drive toward an integrated planning approach across resource areas as well as with its regional and national partners. To support these relationships, TVA will work to make data available to partners, maintaining a comprehensive natural resources database. In addition, TVA will create a monitoring and assessment process to track the progress made by NRP programs and activities. Also, TVA will begin adapting reservoir land plans to a singleuse allocation methodology.



Phase II: Years 4 to 5

TVA will continue to implement NRP programs to sustain, maintain and improve resource conditions. This includes evaluating NRP stewardship efforts today as part of the first five-year refresh cycle. To begin with, TVA will define its approach to identifying and addressing resource needs in an integrated manner over the near- and long-term horizon. As TVA advances its implementation activities, it will focus on establishing mechanisms or

best practices to sustain such levels of effort. This includes actively seeking opportunities for collaborative working environments as well as ways to better involve the general public in financial stewardship support and day-to-day management. Additionally, TVA will focus on completing its Comprehensive Valleywide Land Plan.



Phase III: Years 6 to 20

At this point, the NRP has gone through a complete refresh cycle and has refocused its stewardship efforts as needed. TVA will continue to enhance and improve its stewardship efforts in an integrated manner with its partners and the general public. The NRP is a living, breathing document and will continue to evolve over its 20-year life span.



### Measures of Success

An integral component of the NRP is a defined method by which TVA will measure and monitor progress throughout the 20-year life cycle of the plan. While these success measures do not provide details of each individual program, together they provide metrics by which to measure the success of the NRP as a whole. See Section 2.3 for addional detail.

## **Benefits**

The Natural Resource Plan provides a number of benefits to the public, to the resources that TVA protects, and to the ratepayers. TVA's work in natural resource management is a key piece of its integrated business model, and this investment will help it sustain accessible natural resources and recreational sites for the people of the Tennessee Valley in an efficient and effective manner.

Access to and use of outdoor recreation has been shown to correlate to healthier lifestyles and thus a higher quality of life. In addition to ensuring a high quality of life for residents of the Tennessee Valley, the programs in the NRP create a number of positive economic impacts. The 80 recreational sites and approximately 293,000 acres of surrounding land and reservoirs operated and managed by TVA attract millions of visitors each year to enjoy the region's natural and water resources. These visitors create significant economic stimulus for the surrounding communities.

Proper management of natural resources can also create significant benefits for ratepayers. The NRP helps satisfy TVA's requirement for its essential stewardship responsibilities that come with managing the river. Control of the river allows responsible management of the water for thermal control of key generation assets and for hydro generation. Each of these helps reduce power costs, resulting in low electricity rates for residents of the Tennessee Valley.

The NRP helps TVA to evaluate benefits at both a programmatic and Valleywide level, highlighting the advantages inherent in implementing a strong stewardship culture. As a whole, NRP-related programs are expected to provide a fourfold benefit for every dollar spent.



### **Risks**

If TVA does not effectively and efficiently manage the resources entrusted to it, it faces both near- and long-term risks, including not fully achieving the goals of the Environmental Policy or resource management accountabilities assigned to it by the TVA Act. These risks can result in a broad range of impacts. Examples include impacts to public health and safety, economic development, quality of life, nonrenewable resources, and public perception of TVA.

While each program has its own unique risks, there are overarching concerns and challenges associated with not implementing the NRP (see Figure 2.3). For example, if TVA does not actively preserve or protect the region's resources, such as archaeological artifacts, there is a risk of losing them forever. Additionally, partnerships are an essential component of TVA's implementation strategy. Not seeking these relationships would jeopardize the ability to effectively and efficiently manage TVA lands.

TVA will work to mitigate risks with collaborative and comprehensive natural resources management efforts through the NRP.

## **Funding**

The estimated annual cost required to achieve the NRP measures of success is between \$19 million and \$20 million. Funding for the remaining years of the plan will be dependent upon a number of factors, including:

- User fees
- Reallocation of essential stewardship funding
- Increased recreation agreements
- Increased application fees

- Annual budgeting process
- Compliance funding
- Partnerships
- Sponsorships (e.g., corporate)
- TVA base budget

In years when available resources from these sources are high, more dollars will be applied to NRP programs. In years when available resources from the sources above are limited, less funding will be applied to NRP programs, though never falling below meeting legal and regulatory compliance. As a result, TVA may need to reprioritize its spending in these years to ensure compliance obligations are met. This may result in stopping or reducing its commitment to some programs in order to enhance others. Actual funding levels for each year of the plan will be determined through the annual budgeting process.



Funding levels presented in the NRP are not inflation-adjusted and represent 2011 dollars.

## **Biological Resources Summary**

#### What Is Biological Resources Management?

Biological Resources Management programs address two major elements:

- Human uses of the land, such as wildlife habitat management, forestry, agriculture and dispersed recreation. Dispersed recreation includes activities such as hiking, bird-watching and bank fishing that do not require the support of man-made facilities
- Biological resources activities supporting plant and animal species diversity and endangered species management, including TVA's compliance with natural resourcerelated laws, regulations and executive orders

TVA manages biological resources while providing many types of recreational opportunities for the public across approximately 293,000 acres of reservoir land, approximately 11,000 miles of shoreline, and about 42,000 miles of tributary streams and rivers.

#### Goal

TVA will manage biological resources under its care in a holistic, ecologically sound manner to maintain biological diversity while supporting multiple uses to meet stakeholder expectations.

#### **Benefits**

Within biological resources, TVA has structured its implementation strategy based on the characteristics in the table below.



- Improved understanding of current land and resource conditions to support future planning and data sharing efforts
- Increased protection and enhancement of biologically diverse habitats (e.g., threatened and endangered species)
- Successful outreach efforts creating enhanced public awareness of the land use impacts and potential for transport of invasive or nonnative species and plants into habitats
- Promotion of environmentally sustainable dispersed recreational use of TVA-managed lands
- Development of partnerships with other resource management agencies and nongovernmental organizations to further resource management efforts in the region

Characteristic	Current	NRP
Land Stewardship Actively gather resource data to address and prioritize land	Various, incomplete	Central.
maintenance and stewardship needs.	databases	comprehensive database
Habitat and Species Management		
Develop and implement proactive methodologies to protect, manage and enhance biodiversity in the Tennessee Valley.	Reactive	Proactive
Dispersed Recreation		
Maximize public land use benefits by protecting, maintaining and expanding recreational and educational opportunities.	Fragmented	Coordinated
Public Outreach and Awareness		
Conduct proactive, integrated education efforts about the importance of biological resources and their effect on quality of life.	Independent	Integrated

Program	Description
Threatened and Endangered Species Program	Complies with Section 7 of the Endangered Species Act, under which TVA is required to consult with the U.S. Fish and Wildlife Service concerning the effect of its actions on threatened and endangered species designated by the service.
Wetland Management	Implements a proactive approach to identify, manage and protect TVA-managed wetlands.
Sensitive Resources Data Management	Manages TVA's biological databases, which contain an ecological inventory of rare plants, animals, natural communities, natural areas, and other sensitive natural resource features, to ensure information is current.
Natural Areas Management	Manages TVA's natural areas, which are ecologically significant sites, lands set aside for specific natural resource management objectives, and lands that contain sensitive biological, cultural or scenic resources.
Migratory Birds Management	Develops and implements migratory bird management plans, and increases involvement in regional working groups.
Grasslands and Agricultural Lands Management	Increases habitat diversity across the TVA landscape through management of agricultural licenses and partnerships with state and other federal agencies and nongovernmental organizations.
Dewatering Projects Management	Operates nine dewatering projects on Kentucky and Wheeler reservoirs either alone or in partnership with state and other federal agencies.
Forest Resource Management	Manages the mature forest cover on TVA's public lands for watershed protection benefits.
Nonnative Invasive Plant Management	Manages the effects of nonnative invasive plant infestation under and beside forest canopies, small forest openings, open and early successional habitat lands, and sensitive resource areas and habitats.
Nuisance Animal Control	Manages the effects of nuisance animals on TVA lands, facilities and recreational users. These efforts hope to protect public health and safety (e.g., feral hogs), TVA assets (e.g., bird impacts to power lines and transformers), and adjacent private property (e.g., flooding caused by beavers) from damage.
Terrestrial Greenhouse Gas Sequestration Management	Focuses on continuing TVA's participation in research projects and third-party consortiums on terrestrial carbon sequestration, which is the storage of carbon in the biomass created by perennial vegetation such as root systems and tree trunks.
Wildlife Habitat Council – Third-Party Certifications	Process to apply for a third-party certification of projects that enhance wildlife habitats on TVA properties and manages the already certified projects.
Wildlife Habitat Enhancement Partnerships	Focuses on collaborating with state and other federal agencies, individuals, and nongovernment organizations to improve habitats and increase wildlife-oriented recreational opportunities on TVA-managed lands.
Boundary Maintenance	Establishes and maintains TVA's reservoir property boundaries to assist in the identification and reduction of encroachments from adjacent landowners and to enhance protection of natural and cultural resources through clear markings and signage.
Land Condition Assessment and Land Stewardship Maintenance	Describes two types of assessments of land conditions: comprehensive land conditions assessment and rapid land conditions assessment (see Chapter 9 – Reservoir Lands Planning). These processes provide a prioritized list of tasks to address land maintenance needs that are identified.
Conservation Planning	Supports collaborative natural resource planning initiatives throughout the southeastern U.S.
Dispersed Recreation Management	Provides an approach toward managing and enhancing all of TVA's informal recreation sites. Informal recreation refers to lands available for public use (e.g., hiking, camping, bank fishing, bird-watching) that are not supported by formal recreation facilities.
Leave No Trace	Educates outdoor enthusiasts regarding the effects of dispersed recreation activities on the environment and helps them reduce those impacts.
Trails Management	Provides a systematic inventory and maintenance plan to manage over 100 miles of existing trails located on TVA-managed lands.

## **Cultural Resources Summary**

#### **What Is Cultural Resources Management?**

Cultural Resources Management programs address two major elements:

- Compliance with federal legislation on culturally and historically significant sites
- Partnerships and public education to foster awareness and preservation of cultural and historical resources

To date, TVA has documented an estimated 11,500 archaeological sites on or adjacent to its reservoir and power properties. Approximately 5,320 historic structures have been identified on or near TVA-managed public lands. Of these, 85 historic structures are listed on the National Register of Historic Places, and about 235 are considered either eligible or potentially eligible for listing. In addition, nine registered historic districts exist on TVA-managed lands.

#### Goal

TVA will meet its stewardship responsibilities in the Tennessee Valley region through the sound protection of cultural resources.

#### **Benefits**

Within cultural resources, TVA has structured its implementation strategy based on the characteristics in the table below.



- Effective and sustained protection of sensitive, nonrenewable cultural resources and their archaeological context under TVA's management
- Improved relationships with stakeholders that attach cultural value to TVA-managed lands
- Identification and management of historic properties pursuant to Section 110 of the National Historic Preservation Act in a manner that benefits both the resource and the public
- Increased education and awareness of the importance of protecting cultural resources through public outreach efforts
- Compliance with all relevant laws and regulations concerning cultural resources

Characteristic	Current	NRP
Enforcement Support enforcement efforts to protect the cultural resources found on TVA-managed lands.	Limited	Expanded
Protection  Monitor and protect archaeological resources to prevent looting and shoreline erosion.	Responsive	Proactive
Data Management Compile and maintain accurate and up-to-date data on cultural resources.	Minimal, fragmented	Enhanced, collaborative
Public Outreach and Awareness Conduct proactive, integrated education efforts about the importance of cultural resources and their effect on quality of life.	Reactive, independent	Targeted, integrated



and the same	
Program	Description
Archaeological Monitoring and Protection	Confirms that TVA is protecting the archaeological resources located on the lands it manages, pursuant to Section 110 of the National Historic Preservation Act and the Archaeological Resources Protection Act.
Archaeological Resources Protection Act	Manages the preservation and protection of archeological resources and sites on TVA lands in accordance with the law.
Native American Consultation	Involves consultations with federally recognized tribes to meet the objectives of the Native American Graves Protection and Repatriation Act, the National Historic Preservation Act, the American Indian Religious Freedom Act, Executive Order 13007, Executive Order 13175, the 1994 executive memorandum regarding government-to-government relationships with tribal governments, and the 2009 presidential memorandum regarding tribal consultation.
Native American Graves Protection and Repatriation Act	Confirms that the requirements of the Act are being met. This provides for the protection of Native American human remains, funerary objects, sacred objects and objects vital to Native American cultural identity.
National Historic Preservation Act Section 106	Manages compliance with the requirements of Section 106 of the law, under which TVA must consider the effect of its actions on historic properties and allow the Advisory Council on Historic Preservation an opportunity to comment on the action.
Preservation Program	Manages historic properties under TVA's purview in accordance with Section 110 of the National Historic Preservation Act.
Preserve America	Develops a plan for the potential use of historic properties suitable for heritage tourism, improves TVA's knowledge about historic resources under its care and improves its leadership in preserving these resources.
Archaeological Outreach (Thousand Eyes)	Increases public awareness of the need to protect archaeological sites located on public lands.
Corporate History Program	Maintains a record of TVA's rich history and provides educational and outreach opportunities to promote TVA's historical significance to the region, nation and world.

## **Recreation Management Summary**

#### **What Is Recreation Management?**

Recreation management encompasses operating TVA-run campgrounds and day-use areas as well as conducting recreation assessments, designing recreation improvement programs, and developing visitor guidelines.

From its beginning, TVA has encouraged the development of a wide variety of outdoor recreation facilities and opportunities in the Tennessee Valley. Throughout the years, TVA has allocated approximately 21,200 acres of reservoir lands for developed recreational purposes, particularly on TVA reservoirs and shorelines.

#### Goal

TVA will protect and conserve natural resources while providing recreation opportunities across the region.

#### **Benefits**

Within recreation management, TVA has structured its implementation strategy based on the characteristics in the table below.

- Increased recreation opportunities on TVA-managed lands
- Improved and up-to-date recreation information to support TVA and regional planning efforts
- Greater diversity of recreation opportunities through collaboration and partnerships
- Promotion of sustainable resource technologies on recreation properties (e.g., Melton Hill campground site)
- Integrated operation activities and partnerships that support outdoor recreation opportunities to more effectively manage lands and waters under TVA's stewardship



THE RESIDENCE OF THE PARTY OF T	THE PERSON NAMED IN	
Characteristic	Current	NRP
Innovation Evolve recreation areas to meet best management practices and sustainable technologies.	Standard facilities	Demonstration facilities
Enhancement/Expansion Seek improvement and growth in recreation opportunities.	Maintenance focused	Improvement focused
Data Management  Compile and maintain accurate and up-to-date data on recreation areas.	Various, incomplete	Comprehensive
Public Outreach and Awareness Conduct proactive, integrated education efforts about the importance of recreation and its effect on quality of life.	Ambiguous information	Interactive tools

Program	Description
Management of Campgrounds on Dam or Power Plant Reservations	Oversees TVA's eight campgrounds located on dam or power plant reservations in Alabama and Tennessee, making approximately 460 campsites available to the public.
Management of Campgrounds off Dam and Power Plant Reservations	Oversees TVA's four campgrounds located on other reservoir properties in Alabama and Tennessee, making approximately 215 campsites available to the public.
Day-Use Areas – on Dam Reservations	Manages TVA's day-use areas (various types of recreational facilities available to the public free of charge; amenities typically include picnic sites, pavilions, fishing piers, restrooms and trails) on dam reservations.
Day-Use Areas – off Dam Reservations	Manages TVA's day-use areas that are located off dam reservations.
Stream Access Sites	Administers TVA's stream access sites (typically consists of a parking area, picnic area, and developed access to the stream) and supports blueways (water paths or trails developed with launch points or camping locations) partnerships.
Annual Tours	Leads annual media and technology transfer tours to showcase TVA's technology integration and efforts to promote sustainability at recreation areas.
Recreation Information Management	Directs onsite (e.g., signage) and offsite (e.g., Internet-based) recreation information. This is used for impact analyses associated with environmental reviews of TVA actions, to perform recreation demand analyses, and to provide information to partners and stakeholders.
Boating Density Assessments	Conducts boating density impact analysis for TVA projects or proposals requiring TVA's approval.
Reservoir Lands Recreation Inventory Management	Creates and maintains an up-to-date, easily accessible database on recreation facilities and services, both TVA and non-TVA, available on TVA-managed reservoirs, along with stakeholder and user input concerning TVA's recreation areas and facilities.
Recreation Design Principles	Implements standard construction designs and products that promote compliance with the Americans With Disabilities Act Accessibility Guidelines, principles of universal design, or other accredited design standards, as appropriate.
Recreation Planning, Assistance and Technical Support	Provides planning and technical services to third parties for new or existing parks, recreational programs, and other reservoir-oriented facilities on a fee or sponsorship basis.
Tennessee Valley Camp-Right Campground Program	Promotes sustainable campgrounds that provide safe, high-quality camping experiences through campground certification programs; modeled after the Tennessee Valley Clean Marina Program.

## **Water Resources Management Summary**

#### **What Is Water Resources Management?**

Water Resources Management is focused on supporting collaborative efforts to improve the quality of the Tennessee Valley region's streams, rivers and reservoirs.

The Tennessee River watershed encompasses parts of seven states in the Southeast totaling 40,000 square miles and 11,000 miles of shoreline. TVA operates the Tennessee River and its tributaries as an integrated system to provide a wide range of public benefits, such as year-round navigation, flood-damage reduction, affordable electricity, improved water quality, water supply, land use, and recreation.

#### Goal

TVA will promote water quality and aquatic habitat improvements across the Tennessee River watershed through collaborative partnerships by providing water quality data and technical support to conduct water resource stewardship efforts within the watershed, including TVA-managed lands and facilities.

#### **Benefits**

Within water resources, TVA has structured its implementation strategy based on the characteristics in the table below.



- Improved protection and enhancement of aquatic habitats and biological communities
- Greater public awareness of land use impacts and the potential for invasive species (e.g., foreign species transported into habitats)
- Expanded collaborative efforts (funding and resources) to better evaluate and protect exceptional biodiversity within the Tennessee River watershed
- A more comprehensive understanding of stream, reservoir and tailwater conditions to help inform future water resource initiatives
- Increased participation in meeting the objectives of the Clean Water Act

Characteristic	Current	NRP
Water Quality Improvement		
Proactively identify and address sources of water contamination and actively protect healthy waters.	Responsive, local	Prioritized, regional
Data Management		
Collect and share water resource data to provide a comprehensive view of conditions in the Tennessee River system.	Independent	Collaborative
Strategic Partnerships		
Develop relationships with regional, state and other federal agencies to support stewardship opportunities and produce measurable water quality improvement.	Minimal, as available	Expanded, proactive
Public Outreach and Awareness		
Conduct proactive, integrated education efforts about the importance of water resources and their effect on quality of life.	Internal, water resource focused	External/ internal, integrated



Program	Description
Aquatic Ecology Management	Focuses on the enhancement of aquatic biological communities in TVA streams, reservoirs and tailwaters.
Stream and Tailwater Monitoring	Monitors streams and tailwaters to evaluate biological conditions and diversity that reflect watershed conditions.
Climate Change Sentinel Monitoring	Focuses on collecting biological, chemical and physical data in each of the five predominant eco-regions in the Tennessee Valley.
Strategic Partnership Planning	Focuses on building strong partnerships with state and other federal agencies, and with regional nongovernmental organizations, to address stewardship issues of mutual importance and drive measurable improvement of health of the region's waters.
Tennessee Valley Clean Marina Program	Promotes environmentally responsible marina and boating practices and will directly link to recreation and to TVA's permitting authority under Section 26(a) of the TVA Act.
Water Resource Outreach Campaign	Increases public awareness and involvement through the promotion of water resource protection and improvement best practices.
Reservoir Shoreline Stabilization / Riparian Management	Helps control critical shoreline erosion, including protecting significant cultural and other sensitive resources, maintaining or improving water quality, and enhancing aquatic and wildlife habitat.
Nutrient Source - Watershed Identification and Improvement	Establishes goals or targets to reduce nutrients (phosphorus), sediment or both in TVA-managed reservoirs.
Northern Gulf of Mexico/Mississippi River Basin Nutrient Load Reductions	Conducts modeling projects to determine what nitrogen source-load reduction opportunities exist in the lower Tennessee River basin.

## **Reservoir Lands Planning Summary**

#### What Is Reservoir Lands Planning?

As a steward of critically important natural resources across the Tennessee Valley, TVA has a duty to manage its lands in a sustainable manner for present and future generations. Reservoir lands planning guides TVA management decisions on natural resources and property administration. TVA's Land Policy, approved by the board in 2006, governs the planning, retention and disposal of land under TVA's stewardship.

TVA's integrated resource management approach focuses on balancing flood control, navigation, power generation, water quality, recreation and other land use needs. Lands planning is an integral part of meeting TVA's objectives.

#### Goal

TVA will strive to continue to balance shoreline development, recreational use, sensitive and natural resource management,



industrial use and other land uses in a way that maintains the quality of life and other important values across the region.

#### **Benefits**

As part of the NRP, the methodology for reservoir lands planning will transition from reservoir-specific plans to a Comprehensive Valleywide Land Plan (CVLP). The CVLP examines resource demands and trends holistically to establish an allocation range for each land use zone (see below).



Allocation Designation		<b>Current Allocation</b>	CVLP Range	
Zone 2	Project Operations	7%	5% - 7%	
Zone 3	Sensitive Resource Management	17%	16% - 18%	
Zone 4	Natural Resource Conservation	61%	58% - 65%	
Zone 5	Industrial	2%	1% - 2%	
Zone 6	Developed Recreation	8%	8% - 10%	
Zone 7	Shoreline Access	5%	5%	

#### **Benefits**

Within reservoir lands planning, TVA has structured its implementation strategy based on the characteristics below.

By selecting the Comprehensive Valleywide Land Plan, TVA will:

• Provide a systematic method for planning

- public lands to balance stewardship objectives, resource and public needs, and TVA obligations
- Establish target ranges for allocations to each land use zone
- Increase flexibility and clarity in the lands planning process
- Create a balance between competing and sometimes conflicting land uses



Characteristic	Current	NRP
Planning Approach Define approach for future evaluation and planning of TVA reservoirs.	Responsive, local	Prioritized, regional
Methodology Establish methodology to classify parcels or tracks within TVA reservoirs.	Independent	Collaborative
Zone Definitions Define appropriate use of TVA-managed lands.	Minimal, as available	Expanded, proactive
Planning Cycles Determine frequency by which land plans are developed, reviewed and updated.	Internal, water resource focused	External/ internal, integrated

## **Public Engagement Summary**

#### What Is Public Engagement?

TVA has been charged with managing its natural resources in an integrated manner to ensure the protection, enhancement and conservation of these resources for future generations to enjoy. TVA is developing overarching public engagement programs to increase public awareness and promote opportunities for volunteer involvement, environmental education, financial/resource assistance and collaborative partnerships.

#### Goal

TVA will actively develop and evolve public engagement programs to increase public awareness, education and involvement opportunities (e.g., volunteers) in support of implementing NRP programs in an integrated manner with external stakeholders.

#### **Benefits**

Within public engagement, TVA has structured its implementation strategy based on the characteristics in the table below.



- Increased public awareness and appreciation of the natural resources of the Tennessee Valley region through an integrated education and communication effort across all resource areas
- Greater public understanding of the value and benefits associated with the protection of natural resources
- Increased sense of public ownership and pride in the management of the region's natural resources



Characteristic	Current	NRP
Education and Communication Create awareness and understanding of the importance and availability of natural resources throughout the Tennessee Valley.	Independent, by resource area	Integrated
Involvement Create opportunities for public involvement in natural resources management.	Independent, by resource area	Integrated
Partnerships Develop and maintain strategic relationships with state and other federal agencies, nongovernment organizations, distributors of TVA power, foundations, businesses and academia.	Independent, by resource area	Integrated



# Environmental Education Program Establishes opportunities to share natural and cultural resource information with a variety of audiences, such as school groups, civic groups and other organizations, elected officials, business leaders, and the general public.

Volunteer Program

Enhances TVA's resource stewardship capabilities by tapping into the strengths of the TVA community and providing opportunities for the public to assist in resource protection, improvement and enhancement.

Foundation and Trust
Fund Management

Builds strong partnerships with regional and local stakeholders and organizations, as well as with corporations with ties to or interest in the Tennessee Valley that are looking for opportunities to have a positive environmental impact in the region

